



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/667,964

09/23/2003

Yoshiaki Sakagami

059406.00012

7894

32294

7590

07/28/2009

SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER

ARMSTRONG, ANGELA A

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

07/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/667,964	Applicant(s) SAKAGAMI ET AL.	
	Examiner ANGELA A. ARMSTRONG	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed March 27, 2009, amending claim 1. Claims 1 and 4-25 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 4-12 and 14-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bancroft (US Patent Application Publication No. 2002/0165790) in view of Hull (US Patent No. 6,976,032).
2. Regarding claim 1, Bancroft discloses a receptionist robot system [Figures 11-17; paragraph 0031-0033 -- mobile robot system; paragraph 0147-0197], comprising: a traveling robot [paragraph 0031 – mobile robot] including autonomous traveling means for traveling autonomously [paragraph 0037] and recognition means for recognizing a guest [paragraph 0040, 0078 – system determines customer's identification]; and management database means [paragraphs 0147-0197] adapted to communicate with the robot and provided with a database containing identification information to identify the guest recognized by the recognition means; wherein the guest is identified at least according to information obtained by the recognition means and management database means; wherein the traveling robot further comprises dialog means [paragraph 0072-0077 – user interface, speakers and microphone and the system provides

Art Unit: 2626

for the user to input speech and can output audible responses] for communicating with the guest recognized by the recognition means and response means for determining the contents of communication with the guest according to an identity of the guest recognized by the recognition means and associated information from the management database means; and the response means is configured to determine an action to conduct the guest to a prescribed facility according to the utilization status of the facility [paragraph 0126-0129; 0172-0176; – the robot greets the customer and can serve as a mobile kiosk. Additionally, the robot can provide customer interaction such as show map, print map, direct customers or have customers to follow to a particular location. Bancroft provides a means of identifying the user, but does not specifically teach the method of identifying the user is via image recognition. However, identifying a person via cameras and image recognition was well known. Hull discloses a networked peripheral for visitor greeting, identification, biographical lookup and tracking, specifically teaching image recognition, personalized greeting for the visitor, and tracking and storing of data regarding visits (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11) and suggests the system provides for improved techniques for automating the collecting of information about visitors. Therefore, it would have been obvious to modify the system of Bancroft to implement the image recognition techniques, as suggested by Hull, for the purpose of improving the automated information collection techniques, as also suggested by Hull. Bancroft does not teach the management database means is adapted to retain and update individual personal information and schedule information or that the management database means is communicably connected with input means for inputting the schedule information and notification means for notifying the arrival of the guest to a host according to the

Art Unit: 2626

action of the response means with respect to the guest. Hull discloses retaining and updating individual personal information and schedule information, inputting schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11). It would have been obvious to one of ordinary skill at the time of the invention of Bancroft to provide for retaining and updating individual personal information and schedule information, inputting schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest, as suggested by Hull, because such a modification would allow visitors or guests to a facility to be greeted and announced without the assistance of a human, thereby allowing a company more efficient means of utilizing employees.

3. Regarding claim 4, the combination of Bancroft and Hull teach the management database means is adapted to retain and update individual personal information and schedule information (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20).

4. Regarding claim 5, the combination of Bancroft and Hull teach the management database means is adapted to update the individual personal information according to a result of communication with the guest conducted by the response means (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20).

5. Regarding claim 6, the combination of Bancroft and Hull teach the recognition means is adapted to select a candidate or determine a priority order of a plurality of candidates according to the schedule information of the management database means (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

Art Unit: 2626

6. Regarding claim 7, the combination of Bancroft and Hull teach the recognition means comprises a camera (col. 6, line 30 to col. 7, line 20).

7. Regarding claim 8, the combination of Bancroft and Hull does not specifically teach a stereoscopic camera. However, implementation of a stereoscopic camera in an image recognition system was well known, and it would have been obvious to use stereoscopic cameras, so as to ensure quality images are obtained for accurate recognition of the person.

8. Regarding claim 9, the combination of Bancroft and Hull teach the recognition means includes a microphone [p00137].

9. Regarding claim 10, the combination of Bancroft and Hull does not specifically teach a stereophonic microphone. However, implementation of a stereophonic microphone in a speech recognition system was well known, and it would have been obvious to use stereophonic microphone, so as to ensure quality speech signals are obtained for accurate recognition of the person.

10. Regarding claim 11, Bancroft discloses a receptionist robot system [Figures 11-17; paragraph 0031-0033 -- mobile robot system; paragraph 0147-0197], comprising: a traveling robot [paragraph 0031 – mobile robot] including autonomous traveling means for traveling autonomously [paragraph 0037] and recognition means for recognizing a guest [paragraph 0040, 0078 – system determines customer's identification]; and management database means [paragraphs 0147-0197] adapted to communicate with the robot and provided with a database containing identification information to identify the guest recognized by the recognition means; wherein the guest is identified at least according to information obtained by the recognition means and management database means; wherein the traveling robot further comprises dialog

Art Unit: 2626

means [paragraph 0072-0077 – user interface, speakers and microphone and the system provides for the user to input speech and can output audible responses] for communicating with the guest recognized by the recognition means and response means for determining the contents of communication with the guest according to an identity of the guest recognized by the recognition means and associated information from the management database means; and the response means is configured to determine an action to conduct the guest to a prescribed facility according to the utilization status of the facility [paragraph 0126-0129; 0172-0176; – the robot greets the customer and can serve as a mobile kiosk. Additionally, the robot can provide customer interaction such as show map, print map, direct customers or have customers to follow to a particular location. Bancroft provides a means of identifying the user, but does not specifically teach the method of identifying the user is via image recognition. However, identifying a person via cameras and image recognition was well known. Hull discloses a networked peripheral for visitor greeting, identification, biographical lookup and tracking, specifically teaching image recognition, personalized greeting for the visitor, and tracking and storing of data regarding visits (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11) and suggests the system provides for improved techniques for automating the collecting of information about visitors. Therefore, it would have been obvious to modify the system of Bancroft to implement the image recognition techniques, as suggested by Hull, for the purpose of improving the automated information collection techniques, as also suggested by Hull. Bancroft does not teach the management database means is adapted to retain and update individual personal information and schedule information or that the management database means is communicably connected with input means for inputting the schedule

Art Unit: 2626

information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest. Hull discloses retaining and updating individual personal information and schedule information, inputting schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11). It would have been obvious to one of ordinary skill at the time of the invention of Bancroft to provide for retaining and updating individual personal information and schedule information, inputting schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest, as suggested by Hull, because such a modification would allow visitors or guests to a facility to be greeted and announced without the assistance of a human, thereby allowing a company more efficient means of utilizing employees.

11. Regarding claim 12, the combination of Bancroft and Hull discloses the recognition means is adapted to forward a recognition result to the management database means, and the management database means is adapted to update the individual personal information according to the forwarded recognition result (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

12. Regarding claim 14, the combination of Bancroft and Hull teach the management database means is adapted to retain and update a utilization status of a facility located within a traveling range of the robot [paragraph 0147-0197].

13. Regarding claim 15, the combination of Bancroft and Hull discloses the recognition means detects the guest as a moving object and when it is determined that the guest has

Art Unit: 2626

approached to a prescribed distance, detects a face of the guest to identify the guest by using the detected face (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

14. Regarding claim 16, the combination of Bancroft and Hull discloses the management database means is adapted to retain and update the individual personal information of the guest (col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

15. Regarding claim 17, the combination of Bancroft and Hull discloses the management database means or robot is provided with an answer-back function in connection with the notification means (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

16. Regarding claim 18, the combination of Bancroft and Hull teaches the recognition means comprises a camera (col. 6, line 30 to col. 7, line 20).

17. Regarding claim 19, the combination of Bancroft and Hull does not specifically teach a stereoscopic camera. However, implementation of a stereoscopic camera in an image recognition system was well known, and it would have been obvious to use stereoscopic cameras, so as to ensure quality images are obtained for accurate recognition of the person.

18. Regarding claim 20, the combination of Bancroft and Hull teach the recognition means includes a microphone [p00137].

19. Regarding claim 21, the combination of Bancroft and Hull does not specifically teach a stereophonic microphone. However, implementation of a stereophonic microphone in a speech recognition system was well known, and it would have been obvious to use stereophonic

Art Unit: 2626

microphone, so as to ensure quality speech signals are obtained for accurate recognition of the person.

20. Regarding claims 22 and 23, the combination of Bancroft and Hull teach wherein the management database means searches for an appointment of the identified guest by referring to the schedule information (col. 4, line 31 to col. 5, line 35; col. 10, line 1 to col. 12, line 11), and the traveling robot further comprises response means for determining an action to conduct the guest according to the search result of the management database means [paragraph 0126-0127; 0172-0176].

21. Regarding claims 24 and 25, the combination of Bancroft and Hull teach wherein the traveling robot further comprises response means for determining an action to be executed depending on a particular condition by referring to a scenario table which defines various actions of the traveling robot and an individual personal map that manages human information surrounding the traveling robot [paragraph 0126-0127; p0172-0176].

22. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bancroft in view of Hull as applied to claim 11 above, and further in view of Chen (US Patent No. 6,144,180).

23. Regarding claim 13, Bancroft and Hull do not teach the traveling robot is capable of traveling inside a building including a stairway according to the map information. However, a mobile robot having the capability to navigate stairs was well known. Chen discloses a system for a mobile robot in which the robot is able to move on various types of terrains, including stairs (Figure 7). Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the mobile robot kiosk system of Bancroft and Hull, to have the robot

Art Unit: 2626

traverse stairs, as suggested by Chen, for the purpose of ensuring the robot is able to escort a visitor to any location of the facility, regardless of the terrain or landscape.

Response to Arguments

24. Applicant's arguments filed March 27, 2009, have been fully considered but they are not persuasive.

25. Applicant argues Bancroft fails to disclose or suggest, "wherein the response means is configured to determine an action to conduct the guest to a prescribed facility according to the utilization status of the facility," as recited in claim 1 or "the response means is configured to determine an action to conduct the guest to a prescribed facility according to the utilization status of the facility," as recited in claim 11. The Examiner cannot concur. Bancroft, at paragraph [0032], specifically describes the plurality of facilities to which the robot system is applicable in regards to the retail application, and specifically teaches "the term "retail" or "retail sales" or "retail environment" is defined as activity relating to, but not limited to, the sale of goods or commodities or any other items, or providing any type of services, for example, to a person, such as in store, in a circus, a factory, warehouse, shop, mall, fair, outside market, display area, hospital, law firm, accounting firm, restaurant, commercial office space, convention center, hotel, airport, arena, stadium, outdoor venue or any other area either inside a structure or outside in which goods, commodities or services are provided, manufactured, stored, sold, offered for sale, displayed in anticipation of future sales, or displayed, such as for any type of promotional

Art Unit: 2626

activities.” Bancroft clearly provides support for the robot to be used to conduct the guest to a prescribed facility according to the utilization status of the facility.

26. Applicant argues “claim 11 further recites, "wherein the management database means is communicably connected with ... notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest." These features of claim 11 are not disclosed in the cited art.” The Examiner cannot concur. Hull specifically teaches (col. 4, lines 31-46) the invention provides an interactive visitor kiosk that is placed at the entry point of a facility. Each visitor to the facility is invited to "sign-in" at the kiosk. During the sign-in process, the kiosk collects certain information about the visitor and her visit. The visitor's business card is scanned, and an image of the visitor is obtained. If the visitor does not have a business card, the visitor's name and company name can be entered manually.

Additionally, the visitor also enters a name of a person to be visited and a purpose for the visit.

The person to be visited is notified of the arrival of the visitor by email or by voice telephone.

Hull clearly teaches a notification means for notifying the arrival of the guest to a host.

27. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Bancroft specifically describes a robot or mobile kiosk system for facilitating a "retail environment" (defined as activity relating to, but not limited to, the sale of

Art Unit: 2626

goods or commodities or any other items, or providing any type of services) and Hull clearly teaches kiosk type receptionist system with a notification means for notifying the arrival of the guest to a host. One of ordinary skill would clearly recognize the advantages of modifying the system of Bancroft to include the notification means of Hull, so as to provide excellent customer service to a guest of any of the facilities described and defined by Bancroft's "retail environment."

28. Regarding claims 4-10, 12, and 14-25, Applicant argues each of claims 4-10, 12, and 14-25 recites subject matter that is neither disclosed nor suggested in the combination of Bancroft and Hull. The Examiner cannot concur, since the combination of Bancroft and Hull clearly teach the limitations as recited in claims 1 and 11 (as indicated in the rejection and arguments above), and additionally provide adequate support for dependent claims 4-10, 12, and 14-25, as indicated in the rejection above.

29. Regarding claim 13, Applicant argues the combination of Bancroft, Hull, and Chen fails to disclose or suggest all the features of claim 13. The Examiner cannot concur, since the combination of Bancroft and Hull clearly teach the limitations as recited in claim 11 (as indicated in the rejection and arguments above), and Chen clearly teaches a mobile robot able to navigate stairways.

Conclusion

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2626

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the previous examiner should be directed to ANGELA A. ARMSTRONG whose telephone number is (571)272-7598. The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela A Armstrong/
Primary Examiner, Art Unit 2626